ANNUAL REPORT

ON THE

PUBLIC HEALTH

OF

GIBRALTAR,

FOR THE YEAR

1895,

BY

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VITAL STATISTICS.

The year 1895 completes a quinquennial period. It is, accordingly, advisable to include in this report a review of the period as a whole. It will be remembered that the statistics recorded in previous annual reports,* when taken by themselves, were regarded as unsafe tests of the sanitary condition of the locality year by year, in consequence of the fluctuations which are apt to occur in dealing with the small numbers provided by the Gibraltar population in any one year; and more reliable proofs of the state of the public health were expected to be forthcoming when a review could be made of the quinquennial period, that has now come to a close, as a whole. The statistics of the whole period are, therefore, of much interest and importance; and are valuable not only for future reference but also for purposes of comparison.

Population. The "total civil population" at the last census, in April 1891, amounted to 19,100, including 2,194 aliens living here on temporary permit. That is to say, the "fixed civil population" amounted to 16,906 and the "resident alien" population to 2,194. These numbers have been taken as the basis for calculating the various statistical rates in each year of the subsequent quinquennial period.

In Gibraltar, where house accommodation does not increase *pari passu* with natural expansion of population, it is extremely difficult to say whether the civil population has increased or not since 1891. The increase, in any case, would occur in the "fixed civil population," as the number of aliens residing here on temporary permit remains practically the same.

The following table indicates the probable increase that would have occurred under normal conditions, according to the Registrar-General's method of estimating population at intercensal periods :—

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* These statistics deal with the civil population only. The statistics of the military population are compiled and recorded in the Army Medical Department's Annual Reports.

Year.	Estimated "fixed civil population" at middle of year.	Estimated "total civil population" at middle of year.
1891	16,924	19,118
1892	16,997	19,191
1893	17,072	19,266
1894	17,146	19,340
1895	17,226	19,414

On the other hand the official statistics of estimated population compiled by the local police authorities and published in the Gibraltar Blue-book, indicate a decreasing rather than an increasing population; although the numbers given do not correspond very clearly with the number of houses and occupied rooms. There are indeed reasons for believing that the population has increased rather than diminished during the quinquennial period, notably the fact that the tendency of the population to overflow into neighbouring Spanish territory has received a considerable check recently and the general demand for labour in Gibraltar has had the effect of bringing back to the locality many of this migrating population. The fact that the birth rate, which is considered a useful population test, has slightly increased during the quinquennial period is also in favour of the supposition that the population has not at any rate decreased, and certainly justifies the retention of the census figures as the basis for calculating the birth and death rates and the disease mortality rates.

Births. The birth statistics deal only with the "fixed civil population," as no births are recorded amongst the "resident aliens."

During the year 1895, there were 521 births, 278 males and 243 females. This is equal to a birth rate of 30·81 per 1000 of fixed civil population.

The distribution of births according to months will be found in Table III. Appendix, and calls for no special remark, the births being somewhat evenly distributed throughout the year.

The excess of births over deaths amongst the "fixed civil population" during 1895 is 259.

The following table shows the corresponding facts for the quinquennial period 1891-95 and for the two previous quinquennial periods. It will be noted that the increase in the birth rate is only fractional :—

Year.	Total Births.	Birth-rate per 1000 (fixed civil population).	Excess of births over deaths (fixed civil population).
1891	486	28·10	136
1892	545	32·23	134
1893	504	29·80	169
1894	477	28·21	75
1895	521	30·81	158
1881-85	2407	29·50	239
1886-90	2446	29·30	351
1891-95	2533	29·83	672

In addition to the births, noted above, in 1895, there were 89 births recorded amongst the military population, a number very much less than that recorded in the three previous years, when the numbers were 126, 146 and 112 for 1894, 1893, and 1892 respectively.

Deaths. The number of deaths registered in 1895 was 374 amongst the total civil population, (comprising 363 of the "fixed civil" and 11 of the resident alien population,) 53 amongst the military population and 37 amongst the non-resident population (*i.e.*, amongst persons landed sick from the Bay or brought into the town from other localities for the purpose of medical or surgical treatment.)*

The deaths registered amongst the total civil population give the following general death rates for the year under review,—19·58 per 1000 of total civil, 21·47 per 1000 of fixed civil, and 5·01 per 1000 of resident alien population.

These death rates can be more readily compared with the death rates of previous years in the following table, which also shows the death rates, as far as possible, for all the quinquennial periods since compulsory death registration was introduced here :—

Year.	Estimated death rates per 1000 living.		
	Total Civil Population.	Fixed Civil Population.	Resident Alien population
1891	18·95	20·70	5·40
1892	21·72	24·31	1·82
1893	17·74	19·81	1·82
1894	21·88	24·37	7·29
1895	19·58	21·47	5·01
1867-70	24 61	not recorded.	not recorded.
1871-75	23·88	"	"
1876-80	23·98	"	"
1881-85	23·68	26·54	2·37
1886-90	22·44	25·10	2·19
1891-95	19·97	22·13	4·39

These figures, as a general index of the sanitary condition of the locality in recent years, are highly satisfactory, although they require, of course, further analysis in connection with age, sex and disease mortality. While much caution must be exercised in attributing the result entirely to sanitary action, it is interesting and significant to note that the death rate has been reduced from an average of 24·61 per 1000 for the years 1867-70, the first years of continuous sanitary work in Gibraltar, to 19·97 per 1000 during the quinquennial period that has just ended. Still further, more than half this reduction has occurred during the latter period, a period in which, as has been generally recognized, the application of sanitary principles has been more rigidly enforced. The reduction in the death rate, it is scarcely necessary to state, represents a great saving of life and, probably, a still greater saving in general sickness. It has been concomitant with a notable reduction in the zymotic death rate, as will be shown later on and as is graphically represented in Chart I. in the Appendix.

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* The non-resident population would also comprise the large daily influx of people from Spain, amounting to between 7,000 and 9,000 persons, and including the majority of the laborers on the Admiralty and New Sewerage Works. Some deaths occurred amongst these laborers from accidents on the works during the year, and these are included in the 37 deaths among non-residents.

" Corrected " general death rate.

For comparison with English towns, the " corrected " general death rate for 1895 is 21·51 per 1000 and, for the quinquennial period 1891-95, 21·93 per 1000, of total civil population.*

Quarterly mortality.

The quarterly mortality for the year 1895 is shown in Table III., Appendix. The first quarter shows an extremely high mortality, due to the excessive mortality in the month of January. The second and third quarters, on the other hand, have a low mortality, while the mortality of the last quarter is practically the same as the average for the whole year.

These results, like the results of the quarterly mortality in the previous year, 1894, are at variance with what has obtained in the decennial period 1881-90, when the second quarter almost invariably showed the highest mortality and the last quarter the lowest, as is shown in the following table of quarterly mortalities per 1,000 of total civil population :—

Quarterly Mortality of Total Civil Population.

Period.	1st quarter.	2nd quarter.	3rd quarter.	4th quarter.
1881-90	23·20	24·20	23·50	21·10
1891-95	24·16	19·46	17·48	18·66

The first quarter in 1895 was unusually wet and cold, one of the wettest winters known here, and the deaths amongst old people and from diseases of the respiratory system were unusually numerous and account almost entirely for the exceptionally high mortality of the quarter. The column of respiratory disease statistics, along with the meteorological records, in Table III. Appendix, shows this at a glance.

The comparative figures in the table given above have some further significance and may be taken as exemplifying a fact that has been noted in the vital statistics of other localities subsequent to the application of sanitary measures; namely, a lowering of the general death rate so far as the diseases of the earlier periods of life are concerned and a raising of the death rate amongst diseases incident upon old people. This is indicated by the shifting of highest quarterly mortality from the second quarter of the year to the first quarter, when the mortality from respiratory diseases and amongst old people is invariably greatest.

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* Factor for correction=1·09809, (see Appendix to the Annual Report on the Public Health of Gibraltar for 1891, Table III.). The corrected death rate is the death rate corrected to a standard of age and sex distribution equal to that of England and Wales. The census returns give no data for working out the factor for correction of the death rate of the fixed civil population.

In fact the quarterly mortality rates of the quinquennial period 1891-95 have assumed the character presented by the quarterly mortality rates in England and Wales, with which the quarterly mortality rates of previous quinquennial periods were at variance; at variance, too, in consequence of their high zymotic mortality, as can be readily observed by examination of the statistics of these periods, where measles comes prominently forward as the main factor in causing the second quarter to show the highest mortality during the decennial period 1881-90.

Monthly mortality. The monthly mortality for the year 1895 is shown in Tables II. and III. Appendix.

The greatest number of deaths occurred in January, as has been already stated, the mortality of the month being as high as 35·81 per 1,000. The lowest mortalities were in June, July and August. Each of these months gave a death rate of only 12·82 per 1,000 of total civil population.

Twenty-five out of the 57 deaths in January occurred amongst persons over 55 years of age. The mortality of the age-group "under 5 years of age" was also exceptionally high in January; and the unusual severity of the weather, along with the prevalence of whooping cough, which predisposes to respiratory disease of a fatal type, readily accounts for the high general mortality of the month.

As compared with the decennial period 1881-90, the monthly mortality of the quinquennial period 1891-95 is as follows:—

Monthly mortality per 1000 of Total Civil Population.

Period.	January	February	March	April	May	June	July	August	September	October	November	December
1881-90	22·00	23·5	24·3	29·3	22·5	20·7	24·5	25·0	21·1	20·6	19·7	22·9
1891-95	26·49	24·11	21·84	20·95	18·32	19·08	18·32	17·62	16·23	16·94	18·95	19·98

Here again is a clear illustration of the shifting of the months of maximum mortality from the 2nd and 3rd quarters, (the quarters of maximum zymotic mortality), to the 1st quarter, (the quarter of maximum mortality from respiratory diseases.)

Infantile mortality. The number of children dying under 1 year of age during 1895 was 76, cqual to an "infantile mortality" of 145·8 per 1000 births.

Although this mortality is considerably less than the corresponding mortality of the previous years, the quinquennial period itself shews no improvement as compared with the previous quinquennial period; and it is scarcely possible to hope that in a population like that of Gibraltar, where nearly half of the families live in 1-room tenement dwellings,* any definite or continuous improvement in the infantile mortality will occur.

The marked decrease in this mortality during 1895 has been under the head of general diseases.

The following table enables a comparison to be made of the infantile mortality and the mortality of the age-group "under 5 years" for successive years and periods:—

Year.	Infantile mortality.	Mortality of age group under five years per 1000 of total civil population.
1891	152·3	68·1
1892	183·4	78·9
1893	170·3	71·3
1894	180·0	80·5
1895	145·8	69·2
1881-85	170·3	84·8
1886-90	165·4	86·8
1891-95	166·3	73·6

Age-group "under five years." The figures in the table given above show a decrease in the mortality of this age-group, not only during the year under review, but also for the quinquennial period.

The mortality of this age-group is considered a more important sanitary test than the mortality of any of the other age-groups. The decrease, therefore, from 84·8 and 86·8 per 1,000 in previous quinquennial periods to 73·6 per 1,000 in the quinquennial period 1891-95 must be regarded as further corroboration of the general improvement in the public health, that has been indicated during the latter period by the general death rates.

The chief diseases influencing the mortality of this age-group are diarrhœal diseases, measles and diphtheria, in all of which a decrease has taken place.

Other age-groups. The mortality of the several age-groups is shown in Table II. Appendix, and calls for no special remark. The figures follow the normal rules of mortality at the different ages. The following table of these mortalities may be found useful for further reference. Unfortunately there are no means of comparing these death-rates with the death-rates of previous quinquennial periods, as the population in the census returns of 1881 was not grouped in the same way as in the census of 1891.

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* See Annual Report on the Public Health of Gibraltar for 1892, Table IV., Appendix.

Mortality per 1000 of Total Civil Population at the several Age-groups.

Year.		Under 5 years	5-10	10.15	15.20	20·25	25-35	35-45	45-55	55-65	65-75	75 and upwards.
1891	Males ...	71·26	4·79	5·65	1·08	5·68	11·67	18·35	20 45	40·56	102·68	?
	Females...	67·35	6·88	1·08	0·81	6·12	2·89	11·04	13·00	19·10	57·50	?
1892	Males ...	88·30	7·19	1·13	3·26	7·96	8·92	19·26	25·27	42·59	93·75	200·00
	Females..	70·67	6 86	0·00	3·24	3·53	8·11	11·05	15·00	28·64	70·00	176·13
1893	Males ...	81·40	1·20	3·30	1·00	4 50	4·10	10·00	22·80	32·40	62·50	162·50
	Females ..	62·10	3·40	2·10	2·40	6·10	6·90	8·60	14·00	31·30	70·00	85·20
1894	Males ...	90·49	3·59	4·51	4·35	6·82	9·60	18·42	37·30	34·48	107·14	275·00
	Females ..	71·50	6·88	2·17	4·87	1·76	5·79	8·68	7·00	32·74	72·50	142·04
1895	Males ...	81·44	0·00	2·25	2·17	3·41	4·80	14·23	25·27	42·59	93·75	200·00
	Females ..	59·05	2·29	3 26	1·62	4·41	9·27	9·47	11·00	21 82	67·50	238·63
1891-95	Males .	82·58	3·35	3·37	2·37	5·67	7·82	16·05	26·22	38·52	91·96	?
	Females	66·13	5·26	1·72	2·59	4·38	6·59	9·77	12·00	26·70	67·50	?

Sex mortality. The mortality of the sexes in 1895, distributed according to months and age-groups, is also tabulated in Table II. Appendix.

The total number of deaths amongst males was 182 and amongst females 192, equal to a death-rate of 20·96 and 18·42 per 1000 of total male and total female civil population respectively.

The chief feature of sex mortality in Gibraltar is the difference between the male and female death-rate, which in England and Wales remains almost constant with a female death-rate about 2 per 1,000 less than the male death-rate. In Gibraltar the difference is much greater. The comparison should be made from the "corrected" male and female death-rates, *i.e.*, the recorded death-rates corrected to a standard of age distribution, the standard taken being the age distribution of each sex in England and Wales.*

The following table gives the comparative results for the years of the quinquennial period 1891-95, for the quinquennial period as a whole, and for the two previous quinquennial periods :—

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* See Annual Report on the Public Health of Gibraltar for 1891, Table III. The factor for correction of male death rate is 1·1339 and of female death rate 1·0598.

Table of Sex-mortality, Total Civil Population, Gibraltar.

Year.	"Recorded" death rates per 1000.			"Corrected" death rates per 1000.		
	Males.	Females.	Difference	Males.	Females.	Difference
1891	22·00	16·41	5·59	24·94	17·39	6·55
1892	24·10	19·60	4·50	27·30	20·70	6·60
1893	18·54	17·09	1·45	20·97	18·01	2·96
1894	26·15	18·33	7·82	29·65	19·42	10·23
1895	20·96	18·42	2·54	23·76	19·52	4·24
1881-85	25·80	21·70	4·10	29·32	23·00	6·32
1886-90	25·10	19·90	5·20	28·43	20·93	7·50
1891-95	22·35	17·97	4·38	25·32	19·01	6·31

The explanation of the marked difference between the male and female death-rates in Gibraltar presents considerable difficulties, and there is practically none to offer beyond what has already been noted in the Report on the Public Health for the year 1891, where the large number of females in Gibraltar, shown in the census returns as following no occupation, was pointed out as a possible factor in the production of these results. One should note, however, in this connection, that the majority of aliens resident here on permit are females, and this fact tends to lower the female death-rate, as compared with the male, because the alien residents, in the case of serious illness or unfitness for work, are apt to leave Gibraltar and return to their homes in Spain. The majority of female aliens is not however so great as to explain entirely the remarkable difference in the sex mortality of Gibraltar.

It will be observed, from the above table, that, while the reduction in the general mortality during the past five years has been caused by a reduction in the mortality of both sexes, the greater reduction has taken place in the male mortality.

DISEASES CAUSING MORTALITY.

A table of the diseases causing death during the year 1895, similar to the tables published in previous annual reports, will be found in the Appendix. The majority of these diseases do not call for any detailed examination, but a note should be made of the fact that some misapprehension seems to exist with regard to "natural causes" being registered as a cause of death. Three such cases are shown in the return, and it seems in a way unaccountable that a child of 4 years of age should be so shown.

Cases of puerperal fever have been returned under the heading of septicaemia, in accordance with the official nomenclature of diseases; and all cases of gastro-enteritis have, as in previous years, been grouped as diarrhœal diseases. Similarly, cases of acute meningitis in children are classified as tubercle of brain.

The diseases calling for detailed examination are the zymotic, tubercular and respiratory diseases.

Zymotic diseases. The principal zymotic diseases, namely, small-pox, measles, scarlet fever, diphtheria, whooping cough, enteric and continued fevers, and diarrhœal diseases, accounted for 43 deaths during 1895.

This is equivalent to a "zymotic mortality" of 2·25 per 1000 of the total civil population, and is the lowest "zymotic mortality" yet recorded in Gibraltar, as will be observed in the following table, and also in Chart I., Appendix:—

"Zymotic mortality" per 1000 of Total Civil Population.

Years.	"Zymotic" mortality.
1891	3·03
1892	3·14
1893	2·46
1894	3·61
1895	2·25
1881-85	4·50
1886-90	5·36
1891-95	2·89

The reduction in the zymotic mortality is sufficiently great to account, of itself, for a large proportion of the very considerable reduction, already shown to have taken place in the general death-rate of the locality during the last quinquennial period; and no more satisfactory indication could be forthcoming of an improvement in the public health. That is to say, the improvement has occurred in those very diseases, which sanitary measures are intended and expected to control and mitigate. The following table shows at a glance the class of zymotic diseases, which have thus experienced a reduction :—

Principal Zymotic Diseases.	Number of deaths recorded.		
	1881-85	1886-90	1891-95
Diarrhœa	200	222	179
Diphtheria	55	114	35
Whooping Cough	7	24	21
Enteric Fever	53	33	20
Small Pox	28	9	10
Measles	24	91	8
Continued Fever	14	12	4
Scarlet Fever	8	2	0
Total	389	407	277

As each of the quinquennial periods suffered from epidemics of measles and small-pox, and as such diseases as enteric fever, continued fever and diphtheria are more or less endemic in the locality, the statement that a marked improvement has occurred is justifiable. At the same time one must endeavour to avoid falling into the error of supposing that our means of controlling these diseases are practically perfect. The geographical position of the Rock and the specific density of its population render it necessary to keep up a persistent and progressive policy of sanitary supervision, which it is extremely difficult to exercise under certain circumstances.

A detailed statement of the zymotic diseases and of the notified infectious and contagious diseases for the year 1895 is shown in Tables III. and IV., Appendix.

Small-pox. The epidemic of small-pox, which was fully recorded in the Annual Report for the year 1894, gradually disappeared from May 1895 onwards, one case only being notified during each of the four subsequent months, and none being recorded since September. The total number of cases reported during the year was twenty-nine, and there were no deaths. The features of the epidemic up till May, when the epidemic practically ceased, are noted in the last Annual Report, which did not pass through the press till the 20th of that month. It is, therefore, unnecessary to consider the epidemic again as a whole, more especially as the chief sanitary lessons taught by it have already led to definite legislation with a view to giving the Sanitary Commissioners increased powers in controlling the spread of such infectious diseases in the future.

The practice of re-vaccination has not, however, been advanced, and the extent, to which small-pox epidemics may be expected to develop, will depend, to a considerable degree, on the thoroughness with which this important preventive measure is carried out, either at the voluntary request of the individual or by medical pressure and advice.

Chicken-pox. Chicken-pox was prevalent during the first six months of the year, but is of little importance beyond the fact of its co-existence with small-pox. Thus two mild but very distinct cases of small-pox in adults were notified as chicken-pox in March, and there is always this danger of confounding the two diseases when they are both prevalent at the same time.

Scarlet Fever. Four isolated cases were reported. There were no known sources of infection; and two of the cases, at any rate, the two notified in October, were extremely doubtful cases. During the quinquennial period this disease has shown no tendency to assume an epidemic form.

Measles. Measles was practically absent from the locality during the year, three very doubtful cases only being notified.

Diptheria. During 1895 eight isolated cases were reported with two deaths. This is equal to a mortality of ·10 per 1,000 of total civil population from diphtheria, the lowest diphtheria mortality on record here. During the quinquennial period there has been a very marked and noteworthy decline in this mortality. The following table shows the endemic incidence of the disease, since compulsory notification came into force in 1885 :—

Diphtheria.

Years.	Reported cases.	Deaths.	Mortality per 1000 of Total Civil Population.
1885	20	18	·96
1886	31	18	·96
1887	31	16	·85
1888	22	23	1·21
1889	155	37	1·95
1890	46	20	1·05
1891	12	7	·36
1892	18	9	·47
1893	12	8	·41
1894	21	9	·47
1895	8	2	·10
Quinquennial period 1886-90	285	114	1·20
Quinquennial period 1891-95	71	35	·36

How far this satisfactory state of affairs will continue, it is impossible to predict, but the Sanitary Commissioners and the public may rest assured that it is only by steadily and persistently raising the standard of sanitation amongst the civil habitations and by maintaining a supervision over the food, water and milk supply that these results are obtained. Anything that tends to arrest the progress of sanitation, or, still worse, anything that tends to permit its retrogression will distinctly affect this improvement in "diphtheria mortality" and in the "zymotic mortality" generally.

Enteric Fever. Six cases were reported during the year with no deaths. Two other cases were reported as suffering from enteric fever in the town, one a phthisical patient, who came here for treatment from Madrid and who died with the symptoms of tubercular disease of the intestine, a disease frequently confounded with enteric fever. The other proved to be a case of peritonitis following miscarriage and was so shown in the death register. These two cases have, accordingly, been eliminated from the returns of deaths caused by enteric fever amongst the civil population during the year 1895.

The incidence of enteric fever during previous years is shown in the following table :—

Enteric Fever.

Year.	Reported cases.	Deaths.	Mortality per 1000 Total Civil Population.
1885	25	16	·85
1886	13	8	·42
1887	10	7	·37
1888	23	8	·42
1889	10	7	·37
1890	7	3	·15
1891	13	4	·20
1892	14	6	·31
1893	11	2	·10
1894	19	8	·41
1895	6	0	·00
Quinquennial period 1881-85	not notified.	53	·57
Quinquennial period 1886-90	63	33	·34
Quinquennial period 1891-95	63	20	·20

Here again the mortality of the quinquennial period shows a decided decrease compared with the mortality of the previous quinquennial periods.

These facts are shown graphically in the Charts in the Appendix, where the enteric and continued fever mortalities are grouped together, as, by so grouping the two diseases, for purposes of comparison, the effect of errors in diagnosis is more or less counteracted.

Continued fever.

The deaths from simple-continued fever, it may be stated, amounted to 12 during the period 1886-90 and to 4 only during 1891-95. During the year under review there were no deaths registered from this disease.

Other infectious diseases.

Other infectious diseases notified during 1895 are whooping cough, (with eight deaths), influenza (1 death), mumps (no deaths), erysipelas (no deaths) and puerperal fever (3 deaths).

Puerperal fever.

With the exception of puerperal fever, these diseases are not capable of sanitary control to any great extent at present. Puerperal fever can be mitigated by sanitary supervision over the midwives and the possibility of introducing special measures to aid sanitary authority in this respect ought not to be lost sight of. It is satisfactory, however, to note that disinfection and all other necessary measures of prevention have been, so far, willingly acquiesced in by the midwives themselves.

Diarrhœal diseases.

The number of deaths from diarrhœal diseases, including deaths from gastro-enteritis during 1895, amounted to 33. The quarterly distribution of these deaths is 7 in the first, 4 in the second, 9 in the third, and 13 in the fourth quarter. The mortality per 1000 of total civil population is 1·72.

The mortality from these diseases during the five years of the quinquennial period and for previous quinquennial periods is as follows:—

Diarrhœal Diseases.

Year.	Number of deaths.	Death rate per 1000 of Total Civil Population.
1891	42	2·25
1892	35	1·83
1893	35	1·83
1894	34	1·78
1895	33	1·72
Quinquennial period 1881-85	200	2·15
Quinquennial period 1886-90	222	2·35
Quinquennial period 1891-95	179	1 88

The figures show a certain improvement in the public health so far as diarrhœal diseases are concerned, but not so great an improvement as in the case of diphtheria and enteric fever.

Cholera. The fact should be noted that a formidable epidemic of cholera existed in Morocco from September 1895 onwards. The disease has never approached so near to Gibraltar since the year 1885. It was introduced into Tangier by pilgrims from Mecca; a pilgrim ship, with cases of cholera on board, being allowed to disembark its passengers there. This fact is notorious in Tangier, although, it should be mentioned, a report* by a French Medical Officer directly contradicts this statement. During the progress of the epidemic, Tangier and other coast towns in Morocco were placed under quarantine restrictions.

Tubercular diseases. The mortality from tubercular diseases presents, during the past quinquennial period, a record very different from that of the zymotic diseases. In 1895 the number of deaths from tubercular diseases, including phthisis, acute meningitis in children and other manifestations of tubercle, amounted to 68.

The following is the record of the deaths from these diseases during the fifteen years from 1881 onwards:—

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* Report by Dr. Soulié to the French Minister in Tangier.

Tubercular Diseases.

Year.	Number of deaths.	Death rate per 1000 of Total Civil Population.
1881	63	3·42
1882	78	4·22
1883	66	3·56
1884	71	3·82
1885	87	4·66
1886	73	3·89
1887	62	3·29
1888	35	1·85
1889	50	2·63
1890	49	2·57
1891	53	2·77
1892	63	3·29
1893	49	2·56
1894	69	3·61
1895	68	3·56
Quinquennial period 1881-85	365	3·93
Quinquennial period 1886-90	269	2·85
Quinquennial period 1891-95	302	3·16

Tubercular mortality, therefore, judging by the above figures, shows no definite sign of improvement; and it is a significant fact that the conditions, which most favour the prevalence of tubercular disease, are undoubtedly those which the Sanitary Commissioners have as yet been least capable of combating. Briefly, these conditions are overcrowding, dampness, absence of sunshine, more especially in the lower rooms of houses built on the *patio* system, and the want of means, by notification, isolation and disinfection, of dealing with tubercular diseases as diseases of a distinctly infectious and contagious nature. These latter measures are considered impracticable at present and little can be done, except by complete reconstruction, to increase the hygienic condition of the rooms in old overcrowded dark *patio* houses. The tubercular mortality, nevertheless is extremely high here and deserves serious consideration.

Respiratory diseases.

The deaths from the chief respiratory diseases, including tubercle of the lungs and phthisis,* amounted to 97 during the year 1895. The fatality of these diseases during the first quarter of the year is well shown in Table III. Appendix; 53 of the 97 deaths occurring in it alone, as compared with 20 in the 2nd, 12 in the 3rd and 12 in the 4th quarter. Tubercular diseases on the other hand show an incidence of 19, 11, 15 and 23 deaths in each quarter respectively; so that it is evident from these figures that such diseases as bronchitis and pneumonia have been influenced by the cold and wet of the first quarter, and that, on the other hand, these climatic conditions have affected the comparative results of tubercular mortality in a very much smaller degree.

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* In previous reports these diseases have been included in the statistics of chief respiratory diseases for the purposes of comparison. A more accurate comparison might, however, be made by including the statistics of bronchitis, pneumonia and congestion of the lungs only in this group.

The death rate per 1,000 of total civil population in 1895 from the chief respiratory diseases is 5·07. The following table gives the statistics of respiratory diseases during the five years of the quinquennial period and the average mortality during the two previous quinquennial periods for comparison:—

Mortality from the Chief Respiratory Diseases.

Years.	Number of deaths.	Death rate per 1000 of Total Civil Population.
1891	99	5·18
1892	117	6·12
1893	81	4·24
1894	121	6·33
1895	97	5·07
Quinquennial period 1881-85	620	6·69
Quinquennial period 1886-91	530	5·71
Quinquennial period 1891-95	535	5·38

These figures are somewhat spoiled as comparative tests, by the fact that in 1882, for example, when measles was prevalent and notification had not come into force, many deaths were probably registered as deaths from bronchitis and pneumonia instead of from measles, of which the respiratory diseases were only secondary complications. In fact it is the unprecedented mortality from respiratory diseases in 1882* that gives such a comparatively high respiratory mortality to the quinquennial period 1881-85. If one could eliminate, therefore, this complication in the statistics, it would probably be found that the three quinquennial periods from 1881 to 1895 had very much the same respiratory mortality. An absence of decrease in this mortality, a tendency even to increase, has been observed in connection with the disease statistics of other localities which are subject to the same sanitary measures as have been in force in Gibraltar, and is regarded as evidence of prolongation of life from improvement in the public health, in consequence of the fact that these diseases are specially incident to advanced life and ought, therefore, to increase as the mean duration of life increases.

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* 160 deaths = 8·67 per 1000 of total civil population were recorded from respiratory diseases in 1882.

The charts in the Appendix show graphically the mortality from tubercular and respiratory diseases since 1881, as compared with the decrease in the mortality from the zymotic diseases.

SANITARY CONDITIONS.

The year 1895 has been marked by very considerable progress in the sanitation of the locality, both by the introduction of legislative measures and by the commencement and partial completion of works calculated to vastly improve the quantity and quality of the public water supply. The new sewerage system with outfall at Europa Point was also commenced during the year.

Prevention of infectious disease.

Notification of infectious diseases has been made compulsory on parents and others, who may have become cognisant of the existence of a case of infectious disease in any house or tenement, as well as on the medical attendant. This system of dual notification is in force in England and tends to prevent concealment of dangerous infectious disease.

The notification of tubercular diseases is a question that is acquiring prominence in England. It will probably be found impracticable to enforce it at present in Gibraltar, but the extensive ravages made by these diseases here should be an inducement to consider the possibility of dealing with them in much the same way as other infectious diseases are dealt with.

Vaccination is in the same state as in former years. That is to say, primary vaccination is carried on efficiently amongst the children born in the colony, but some children, born outside it, may, and do, remain in the town unprotected by vaccination in consequence of there being no notification to the Sanitary Commissioners of their entrance into the locality.

Revaccination, as already stated, is practised entirely as a voluntary measure and its protective value has, as yet, failed to find universal favour amongst the people. In time, no doubt, its value will become more generally recognised. There is every reason to believe that a much higher standard of sanitation is demanded by the people themselves than was formerly demanded, and this gradual enlightenment and appreciation of sanitary measures, as a whole, will extend, it is hoped, to the practice of revaccination.

The facilities for *isolation* are also much the same as in former years, and have proved fairly adequate. But more clearly defined powers seem necessary to enable the Sanitary Commissioners to remove to Hospital cases of dangerous infectious disease occurring in tenements that have been sublet, even though a rent of over fifty pesetas monthly is paid for the tenement by the nominal tenant.*

For prompt and economical *disinfection* a reliable disinfecting apparatus under the Sanitary Commissioners' own control seems needed, although with the existing apparatus, at present made available for the Commissioners' use at the Colonial Hospital, the provision of such cannot be considered a matter of great urgency. What is really wanted is some arrangement by which the bedding and clothing of the poorer classes can be disinfected cheaply and returned to them without delay, and this, of course, can be best effected by an apparatus under the Commissioners' own control.

In connection with disinfection another point, which it is well not to overlook, is the necessity of systematically *cremating* the excreta of cases of such diseases as enteric fever, instead of relying upon disinfection by chemicals. In private houses the latter process would necessarily be relied upon, but in Hospitals, which discharge their sewage into the Sanitary Commissioners' drains, there seems no reason why cremation of such excreta and indeed of most hospital refuse should not be carried out as a regular routine. The matter is one, which, in the interest of the public health, should receive serious consideration.

Disinfection of sewers has been carried out as in previous years but the process cannot be considered capable of completely counteracting the evils of a defective system.

School attendance has received recognition in the Sanitary Order Amendment Ordinance which came into force on the 9th October, 1895, and which makes school authorities, parents and guardians responsible that no child belonging to a family, where infectious disease exists, shall attend school until the Health Officer certifies that the risk of infection has disappeared.

Sewerage. The new sewerage works were commenced towards the end of the year. The completion of the scheme will be of immense value to the public health and should have the effect of removing the cause of the disproportionate amount of enteric fever cases that has been noticed to occur in the southern districts, which are in close proximity to the present outfall and to the very defective line of sewer leading to it.

Water supply. The public water supply has experienced a noteworthy improvement during the year, as regards both its quantity and its quality.

Fresh *collecting areas* have been obtained in the upper part of the rock, and a system of filters and interceptors have been introduced, which, so far as present experiment goes, promise well.

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* Existing Bye-Laws give power to compulsorily remove to Hospital only when the case occurs in a tenement paying a rent not exceeding fifty pesetas monthly.

The *filter* constructed in connection with the Moorish Castle Tank consists of layers of polarite and sand and was laid down after careful experiment and consideration of every detail.

Condensed sea water was distributed to the public for a short time in October during repairs to the Moorish Castle Tank but was discontinued on account of the objectionable colour acquired during its passage through the pipes to the upper tanks for distribution. The water itself was pure and lost its objectionable colour after being allowed to stand for a few weeks. It is extremely important that there should be facilities for supplying the town with condensed water during the prevalence of certain epidemic diseases.

Measures have also been undertaken for improving the condition of the *Watering Jetty Wells.* That the present wells require very careful reconstruction is undoubted but, with an increased supply of rain water from the new collecting areas, the well water may possibly in time be dispensed with altogether as a source of water supply for domestic purposes.

With regard to *private tanks,* every practicable measure has been taken to insist upon owners of houses keeping their collecting areas, inlets to tanks and tanks themselves free from pollution; but it is impossible, without some means of filtration, to ensure a permanently good water supply from rain collected on the roofs of houses and stored in masonry tanks under rooms and yards, surrounded by habitations and drains of every description. In the Appendix, drawings are given of an excellent arrangement of filter for these private tanks. By the arrangement shown in the drawings, the water is pumped from the tank direct into the filter, and passes from the filter into a storage tank, from which it can be distributed to any part of the house.* The adoption of some such filtering arrangement generally throughout the town is very desirable and the publication of the plans in the Appendix may enable the public to judge of it for themselves. The construction of such filters in private houses should be under the supervision of the Sanitary Commissioners' experts, until, at any rate, the principles are sufficiently well grasped by the general public.

Water analyses. The analyses of both public and private water supplies undertaken during the year by Mr. Abrines, the Sanitary Commissioners' analyst, show the same general characters, both in the tank and well waters, as have previously been noted here, the impurities of the former varying considerably according to the condition of the collecting area and position of the tank, while the latter invariably showed an excessive amount of mineral constituents, and, in one or two cases, direct communication with drains, such as is always liable to occur in wells sunk in the midst of habitations.

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* The filter has been devised by the Commissioners' Engineer, Mr. W. W. Copland, A.M. I.C.E. The filtering medium used is polarite and sand, but, of course, filters on the Pasteur system could be used in the same way. The special point to note is the arrangement by which water pumped out of the tank *must* be filtered before it can be obtained for use.

Bacteriological laboratory.

The Commissioners have sanctioned the construction of a bacteriological laboratory in connection with the chemical laboratory. This is an important step in advance and it is hoped that, not only in connection with the water supply but also in connection with the outbreak of infectious diseases, valuable information may be obtained, which may enable the Commissioners to deal more thoroughly, more scientifically and, as a result, more economically with many conditions affecting the public health.

Milk supply.

A systematic supervision of the milk supply has been maintained. During the year the following analyses were made of samples taken at random from dairies and street vendors :—

Milk analyses, 1895.

Months.	Number of samples analyzed	Number of samples up to standard.	Number of samples adulterated.
January	11	11	—
February	7	4	3
March	49	41	8
April	4	4	—
May	10	10	—
June	4	3	1
July	18	14	4
August	7	7	—
September	16	13	3
October	20	19	1
November	18	13	5
December	6	6	—
Totals	170	145	25

The amount of added water in the adulterated samples varied from 12 to 51 per cent.

Ninety-three of the samples were taken from street vendors and thirteen of these or nearly 14 per cent., were adulterated. Of the remaining 77 samples, taken from dairies, 12 or over 15½ per cent., were adulterated.

During the previous year the number of adulterated samples from street vendors amounted to 28 per cent. of an almost similar number analyzed, while the samples from dairies had only 7 per cent. adulterated.

During the year under review all the milk shops in the town were brought under the licensing clauses of the milk Bye-Laws. Licenses were refused in the case of three, which existed in premises quite unsuited for the purpose of a dairy.

Amongst the proposals, still under consideration, are additions to the milk Bye-Laws with a view of imposing penalties upon any one, suffering from an infectious or contagious disease, being concerned in the milking of cows or goats, handling of vessels or, in other ways, taking part in the production, distribution or storage of milk, and also upon anyone who interferes with the quality of the milk by removing any of its constituent parts for the purpose of defrauding the purchaser.

Other food supplies.

Supervision has been maintained, as in previous years, over the bakeries, ærated water manufactories and market supplies. The supplies from Morocco were cut off during the period of quarantine restrictions upon Tangier and Tetuan.* These restrictions had no apparent effect upon the public health. Although the prices of the market produce increased, the meat supply obtained from Spain and Portugal was certainly of better quality than that usually sent here from Morocco.

Habitations.

The sanitary defects, noted during the year in connection with habitations, are enumerated in Table V., Appendix. With regard to these defects, there is nothing to be added beyond what has already been brought before the Sanitary Commissioners and the public.

The task of improving the condition of old insanitary buildings goes on gradually and steadily, although somewhat slowly; but, without complete reconstruction the measure of reform capable of being affected in some of them is extremely slight. Owners naturally oppose measures entailing any great expense and in many cases such expense means for the time being loss of income. In such cases power seems needed, as in England, to compel the sale of insanitary premises, unless owners are in a position themselves to put them into good sanitary condition. Without some such measure much hardship is at times entailed and the progress of sanitary reform is distinctly and almost unavoidably retarded.

A similar difficulty appears to exist in connection with the erection of new buildings, persons occasionally undertaking their erection at a cost that cannot be remunerative unless an excessive number of tenements is crammed into confined spaces.

Plan after plan has been submitted, as the Commissioners are aware, regardless of the requirements of sanitation, and it is entirely the fault of owners and their architects that they are unfavourably reported upon. Perhaps much of this might be avoided by establishing a rule that every patio or open space should have free access on one side at least and that the length and width of these spaces should be equal to the height of the surrounding walls. Such a rule would not only guide those who engage in building speculations but would tend to diminish density of population as well as to ensure more sunshine and better circulation of air around the living rooms.

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* Quarantine was imposed upon Tangier from 7th September to 12th December, and upon Tetuan from 27th September to 18th December, 1895.

Overcrowding. With regard to the specific overcrowding of rooms, several instances were brought to the notice of the Sanitary Commissioners during the year. There is reason to believe that the tendency to overcrowding has materially increased. The difficulty of dealing with the question need not be dwelt upon, but the Table in the Appendix to the Annual Report on the Public Health for the year 1892 (Table IV.) may be referred to for reliable facts as to the proportion of 1-room tenement dwellings here and the number of families occupying them. It is in these that overcrowding is most apt to occur, and any measure that pretends to deal with the question thoroughly will require a more widespread application of the Bye-Laws than appears, as yet, to have been considered practicable.

W. G. MACPHERSON,
Surgeon-Major, A.M.S.,
Health Officer.

Gibraltar, February, 1896.

APPENDIX

TO THE

ANNUAL REPORT ON THE PUBLIC HEALTH

OF

GIBRALTAR,

FOR THE YEAR

1895.

TABLE I.

Deaths registered in Gibraltar during 1895, amongst the Civil Population, showing diseases causing death and ages at death.

CAUSE OF DEATH.	At all ages.	Under 1 yr. of age.	1 year.	2 years.	3 years.	4 years.	Total under 5 years.	OTHER AGE GROUPS.									
								5-10	10-15	15-20	20-25	25-35	35-45	45-55	55-65	65-75	75 and upwards.
General Diseases	146	40	20	9	2	7	78	2	1	2	2	8	7	5	7	10	24
Local Diseases	220	35	7	4	1	2	49	..	3	2	5	13	21	26	29	38	34
Poisons (none)	...	...	..	...	...	...	...	.	...	...	...	...	..	...	.	...	
Injuries	8	1	..	...	...	...	1	...	1	...	1	2	1	1	1	..	...
Total...	374	76	27	13	3	9	128	2	5	4	8	23	29	32	37	48	58
CLASS I.																	
GENERAL DISEASES.																	
GROUP A.																	
Influenza	1	...	...	.	...	..	...	...	..	...	...	...	...	...	...	...	1
Whooping Cough	8	5	2	1	...	...	8	..	...	...	...	...	...	...	...	...	...
Diphtheria	2	...	...	2	...	...	2	..	...	...	...	...	...	...	...	...	...
Diarrhœa	33	17	4	...	..	..	21	1	...	...	...	...	1	...	...	4	6
Septicaemia	3	...	..	...	..	...	...	..	...	...	1	2	...	..	...	...	...
Syphilis	7	5	...	1	..	...	6	...	...	...	..	...	...	1	...	...	...
GROUP B.																	
Starvation	2	1	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...
Alcoholism	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
GROUP C.																	
Malformations	2	1	1	...	..	..	2	...	...	...	...	...	...	...	...	...	...
Immaturity at Birth	3	3	...	..	...	..	3	..	...	..	...	...	...	..	...	...	...
Debility	1	1	...	...	...	...	1	...	..	...	...	...	...	...	...	...	..
Old Age	16	...	...	...	...	...	...	.	...	...	...	...	...	...	...	1	15
(Natural causes?)	3	...	...	...	1	...	1	..	...	...	...	...	...	1	1	...	...
GROUP D.																	
Rheumatic Fever	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
Rheumatism	1	...	.	...	...	...	...	...	...	...	...	...	1	...	...	..	...
Malignant newgrowth	15	...	...	...	...	...	...	...	...	1	...	1	2	2	3	4	2
Non-malignant do.	1	...	...	...	...	...	...	..	...	...	...	..	...	...	...	1	...
Tubercle (not classified)	7	...	1	1	...	1	3	..	...	1	...	1	2	...	...	...	...
" of Lungs	7	...	1	..	..	1	2	1	...	...	1	2	1	...	...	...	...
" of Brain	26	6	10	4	1	4	25	..	1	...	...	...	...	...	...	...	...
" of Intestine	1	...	...	...	...	...	...	.	...	...	...	1	...	...	...	...	...
Ricketts	1	...	1	...	...	...	1	..	...	...	...	...	. .	...	...	...	...
Purpura	1	...	...	...	...	..	...	..	...	...	...	...	...	...	1	..	...
Anaemia	1	1	...	...	...	...	1	..	...	...	...	...	...	...	...	...	...
Leucocythaemia	2	...	...	...	...	1	1	..	...	...	...	...	...	...	1	...	...
Totals...	146	40	20	9	2	7	78	2	1	2	2	8	7	5	7	10	24

TABLE I.—*Continued.*

CAUSE OF DEATH.	At all ages.	Under 1 yr. of age.	1 year.	2 years.	3 years.	4 years.	Total under 5 years.	OTHER AGE-GROUPS.									
								5-10	10-15	15-20	20-25	25-35	35-45	45-55	55-65	65-75	75 and upwards.
CLASS II.																	
LOCAL DISEASES.																	
NERVOUS SYSTEM.																	
Congestion of Brain....	3	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	1
Hydrocephalus	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
Softening of Brain......	2	...		...	...	...	...	...	...	...	...	...	...	...	1	1	...
Sclerosis	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Apoplexy	16	...	...		...	...	...	...	...	...	...	...	2	1	4	5	4
Paralysis	4	...	...	...	...	...	...	...	...		...	...	...	1	2	1	...
Hemiplegia	6	...	...	...	...	...	...	...	...	...	...	...	...	1	...	3	2
Eclampsia	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
Infantile Convulsions...	8	7	1	...	...	...	8	...	...	...	...	...	...	...	...	...	...
Tetany	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
Epilepsy	1	1	...	...	...	...	1		...	...	...	...	...	...	...	...	...
Mania	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Dementia	1	...	...	...	...		...	...	...	...	...	...	1	...	...	...	...
General Paralysis of Insane	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
CIRCULATORY SYSTEM.																	
Heart Disease (not specified)	16	...	...	...	...	...	...	...	1	...	...	1	1	3	3	2	5
Endocarditis	2	...	...	...	...	...	...	...	...	...	...	...	...	1	...	.	1
Pericarditis	4	...	...	...	...	...	...	...	1	...	...	...	...	2	.	1	...
Valvular Disease........	10	...	...	...	...	...	...	...	...	...	...	...	1	1	1	5	2
Hypertrophy of Heart..	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
Fatty degeneration of Heart	1	...	...	...	...	...	...	...	...	...	...	...	.	...	...	...	1
Dilatation of Heart ...	1	...		...	...	...	...	...	...	...	1	...	...	...	...	...	...
Angina Pectoris	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Syncope	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Aneurism	2	...	...	...		...	...	.	...	...	...	...	...	1	1	...	...
Rupture of blood vessels	1	1	.	...	...	...	1	...	...	...	.	...	...	...	...	.	...
RESPIRATORY SYSTEM.																	
Laryngitis	1	...		.	1	...	1	...	...	...	...	...		.	.	...	...
Bronchitis	33	14	...	1	...	1	16	...	...	...	...	1	1	3	4	4	4
Congestion of Lungs ..	4	3	...	...	...	...	3	...	...	...	...	...	...	...	...	...	1
Pneumonia......	23	6	3	2	...	1	12	.	...	...	...	2	...	1	1	3	4
Phthisis	27	...	...	...	...	...	...	...	1	1	1	5	6	5	6	1	1
Emphysema	1	...	...	...	...	...	...		...	...	...	...	...	1	.	...	...
Pleurisy	3	1	...	...	...	...	1	...	...	...	...	...	1	...	...	1	...
DIGESTIVE SYSTEM.																	
Teething.................	1	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...
Inflammation of Stomach	2	1	1	...	...	...	2	...	...	...	...	...	...	...	...	...	...

TABLE I.—*Continued.*

CAUSE OF DEATH.	At all ages.	Under 1 yr. of age.	1 year.	2 years.	3 years.	4 years.	Total under 5 years.	OTHER AGE-GROUPS. 5-10	10-15	15-20	20-25	25-35	35-45	45-55	55-65	65-75	75 and upwards.
CLASS II.																	
LOCAL DISEASES—*Cont.*																	
DIGESTIVE SYSTEM—*Cont.*																	
Ulceration of Stomach..	1	...	...	...	...	...	...	...	..	...	...	...	...	...	...	1	...
Obstruction of Intestine	1	...	...	...	...	...	...		...	...	...	...	..	1	..	..	...
Strangulated Hernia ...	1	...	...	...	.	...	...	..	...	...	...	...	...	...	..	1	...
Perforation of Intestine.	1	...	...	...	.	..	...	..	...	...	.	...	..	..	..	1	...
Liver Disease (not specified)	1	...	...	..	..	...	...	...	..	...	...	...	...	...	1	.	...
Hypertrophy of Liver...	1	...	...	.	...	...	...	...	...	...		...	1	...	...	...	...
Hepatitis	2	...	..	...	.	...	...	...	...	...	..	..	...	...	1	1	...
Cirrhosis of Liver	4	...	...	...	...	...	...	...		...	...	...	3	...	...	...	1
Obstruction of Bileduct	1	...	...	...	...	..	...	.	...	...	...	...	...	..	..	...	1
Peritonitis	4	...	...	...	..	...	...	...	...	...	1	1	..	1	...	1	...
LYMPHATIC SYSTEM.																	
Lymphadenoma	1	...	...	...	...	...	...	...	..	...	1	...	...	...	...	...	...
URINARY SYSTEM.																	
Nephritis	4	1	...	...	. .	...	1	...	...	...	...	...	1	1	1	...	...
Renal Dropsy	2	...	...	...	...	...	...	...	...	..	..	...	...	..	1	1	..
Bright's Disease.........	4	...	1	...	...	...	1	...	...	...	...	...	1	...	..	...	2
Cystitis	1	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	1
GENERATIVE SYSTEM AND PARTURITION.																	
Metritis	1	...	...	...	...	...	...	...	...	...	...	...	...	..	...	1	...
Post-partum Hæmorrhage	1	...	...	...	..	...	...	..	.	...	...	1	...	..	..	..	...
ORGANS OF LOCOMOTION.																	
Periostitis.................	1	...	...	1	...	...	1	...	...	...	...	...	...	..	...	...	...
Abscess	2	...	...	...	...	..	...		...	...	...	...	...	1	1	...	..
Gangrene	3	...	...	...	...	...	...	..	...	...	...	.	1	..	...	2	...
Totals...	220	35	7	4	1	2	49	..	3	2	5	13	21	26	29	38	34
CLASS IV.																	
INJURIES.																	
Multiple Injuries	3	...	...	...	...	...	...	...	...	...	...	2	...	...	1	...	...
Injuries to Skull	2	...	...	...	...	.	...	...	...	...	1	...	1	...	..	...	...
Murders—																	
Punctured wound..	1	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
Injury to Skull ...	2	...	...	...	...	...	...	...	1	..	.	...	...	1	...	..	...
Totals...	8	1	...	...	...	...	1	...	1	...	1	2	1	1	1	...	...

TABLE II.

Sex Mortality amongst the Civil Population, Gibraltar, in 1895, distributed according to Months and Age-groups.

Months.	Deaths at all ages.		Deaths amongst Males according to Age-groups.											Deaths amongst Females according to Age-groups.										
	Males.	Females.	Under 5	5-10	10-15	15-20	20-25	25-35	35-45	45-55	55-65	65-75	75 and upwards.	Under 5	5-10	10-15	15-20	20-25	25-35	35-45	45-55	55-65	65-75	75 and upwards.
January	25	32	13	...	...	1	...	...	...	3	3	3	2	7	...	1	1	1	3	2	...	5	4	8
February	21	19	8	...	...	...	...	...	...	2	4	4	3	6	1	...	...	...	...	...	1	3	4	4
March	13	22	2	...	...	...	...	...	2	3	2	3	1	7	...	...	...	...	2	...	...	1	7	5
April	14	17	5	...	...	...	...	...	1	1	1	4	2	7	...	...	...	2	...	...	1	1	1	5
May...............	10	12	2	...	...	...	...	2	3	1	1	...	1	3	...	...	1	...	1	...	1	...	4	2
June	10	12	7	...	...	...	...	...	1	1	1	...	...	3	...	...	...	...	1	1	2	1	2	2
July	14	8	2	...	1	...	...	1	5	2	1	1	1	3	...	...	...	...	2	1	...	...	...	2
August	9	15	2	...	...	...	...	1	...	2	2	2	...	4	...	...	...	1	2	1	1	3	1	2
September	17	11	10	...	...	...	1	...	1	1	3	...	1	3	1	1	...	...	1	1	1	1	2	...
October	14	18	8	...	1	...	...	1	...	...	1	2	1	6	...	...	...	...	2	3	...	...	...	7
November	16	13	7	...	...	1	1	...	1	2	2	...	2	5	...	...	...	1	1	1	1	1	2	1
December	19	13	6	...	...	...	1	2	3	3	...	2	2	2	...	1	...	...	1	2	3	...	...	4
Total deaths ...	182	192	72	...	2	2	3	7	17	21	21	21	16	56	2	3	2	5	16	12	11	16	27	42
Annual death-rate per 1000 at each age ...	20·96	18·42	81·44	0·00	2·25	2·17	3·41	4·80	14·23	25·27	42·59	93·75	200·00	59·05	2·29	3·26	1·62	4·41	9·27	9·47	11·00	21·82	67·50	238·63

TABLE III.

Monthly distribution of Births, Deaths and Principal Diseases causing death, amongst the Fixed Civil Population of Gibraltar, during 1895.

Months.	Meteorology.			Total Births (Fixed Civil Population).	Deaths from all causes.		Monthly death-rates per 1000 living.		Quarterly death-rates per 1000 living.		Principal zymotic diseases.		Deaths from principal zymotic diseases.								Tubercular diseases.		Respiratory diseases.	
	Rainfall in inches.	Mean relative humidity.	Mean temperature in shade (Fahrenheit).		Total Civil Population.	Fixed Civil Population.	Total Civil Population.	Fixed Civil Population.	Total Civil Population.	Fixed Civil Population.	Total deaths.	Quarterly death-rates (Total Civil Pop.) p. 1000 living	Small Pox	Measles.	Scarlet fever.	Diphtheria.	Whooping cough.	Enteric fever.	Continued fever.	Diarrhœa.	Total deaths.	Quarterly death-rates (Total Civil Pop.) p. 1000 living	Total deaths.	Quarterly death-rates (Total Civil Pop.) p. 1000 living
January	9·41	75	53·6	46	57	54	35·81	38·32	27·64	30·04	9	2·72	...	...	...	1	3	...	...	5	8	3·98	24	11·09
February......	14·21	82	58·0	47	40	38	25·13	26·97			2		...	...	...	...	2	...	...	...	7		15	
March.........	8·93	74	57·0	41	35	35	21·98	24·84			2		...	...	...	...	...	...	...	2	4		14	
April	4·59	74	61·1	39	31	27	19·47	19·16	15·70	16·56	4	1·46	...	...	...	...	2	...	...	2	3	2·30	7	4·18
May............	2·07	67	65·0	44	22	22	13·82	15·61			1		...	...	...	...	1	...	...	...	3		8	
June	1·75	62	69·6	38	22	21	13·82	14·90			2		...	...	...	...	...	...	...	2	5		5	
July............	0·00	63	74·7	45	22	22	13·82	15·61	15·49	17·50	2	1·88	...	...	...	...	...	...	...	2	4	3·14	2	2·51
August	0·00	70	75·8	43	24	24	15·07	17·03			2		...	...	...	...	...	...	...	2	3		4	
September ...	2·32	75	74·9	38	28	28	17·59	19·87			5		...	...	...	...	...	...	...	5	8		6	
October	7·05	75	69·1	40	32	31	20·10	22·00	19·47	21·76	9	2·93	...	...	...	1	...	...	...	8	7	4·81	4	2·51
November ...	2·09	81	64·1	51	29	29	18·21	20·58			4		...	...	...	...	...	...	...	4	8		2	
December	9·21	83	59·5	49	32	32	20·10	22·71			1		...	...	...	...	...	...	...	1	8		6	
Whole year ...	61·63	73	65·2	521	374	363	19·58	21·47	19·58	21·47	43	2·25	...	...	...	2	8	...	...	33	68	3·56	97	5·07

TABLE IV.

Infectious and Contagious Diseases notified during 1895, under provisions of Section 10, "Medical Ordinance, Gibraltar, 1885."

Months.	Cases occurring amongst the Civil Population.																								Cases landed from the Bay or brought sick into the town for treatment.							
	Small Pox.		Chicken Pox.		Scarlet Fever.		Measles.		Whooping Cough.		Diphtheria.		Enteric Fever.		Continued Fever.		Influenza.		Erysipelas.		Puerperal Fever.		Mumps.		Small Pox.		Enteric Fever.		Scarlet Fever.		Measles.	
	Reported	Died	Reported	Died	Reported	Died	Reported	Died	Reported	Died	Reported	Died	Reported	Died	Reported	Died	Reported	Died	Reported	Died	Reported	Died	Reported	Died	Reported	Died	Reported	Died	Reported	Died	Reported	Died
January...	*8	...	...	...	...	...	...	...	11	†3	1	1	...	...	...	...	12	...	...	...	...	...	...	...	...	...	1	1	..	...	...	...
February	10	...	3	...	1	...	..	...	...	†2	1	...	1	...	1	...	10	...	...	...	...	...	...	...	..	...	...	...	...	...	5	...
March	3	...	6	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	..	1	1	...	...	1	...	1	...	...	...	...	...
April	1	...	11	...	1	...	...	...	...	†2	4	...	...	...	...	...	...	†1	...	...	1	1	3	...	...	...	...	...	...	...	...	...
May	2	...	2	...	...	...	...	...	3	†1	1	...	...	...	2	...	...	...	.	...	...	...	1	...	...	...	...	...	1	...	...	...
June	1	...	8	...	...	...	...	...	2	...	...	...	1	...	3	...	...	...	...	...	...	...	1	...	1	...	...	..	1	...	...	...
July	1	...	1	...	...	...	1	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	.	...	...	...	...	...	...	...	...	...
August	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	..	...	...	...
September	1	...	...	...	...	...	1	...	...	...	...	..	2	...	...	...	...	...	1	...	..	..	...	...	...	...	...	...	...	...	...	...
October...	1	...	...	...	2	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...
November	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	1	...	...	...
December	...	...	...	...	...	...	..	..	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	..	...	1	..	...	...	..	...
Totals ...	29	...	31	...	4	...	3	...	16	8	8	2	6	..	11	...	24	1	1	...	3	3	5	...	3	1	3	1	3	...	5	.

* 1 other case in military quarters was notified in January. † Not notified.

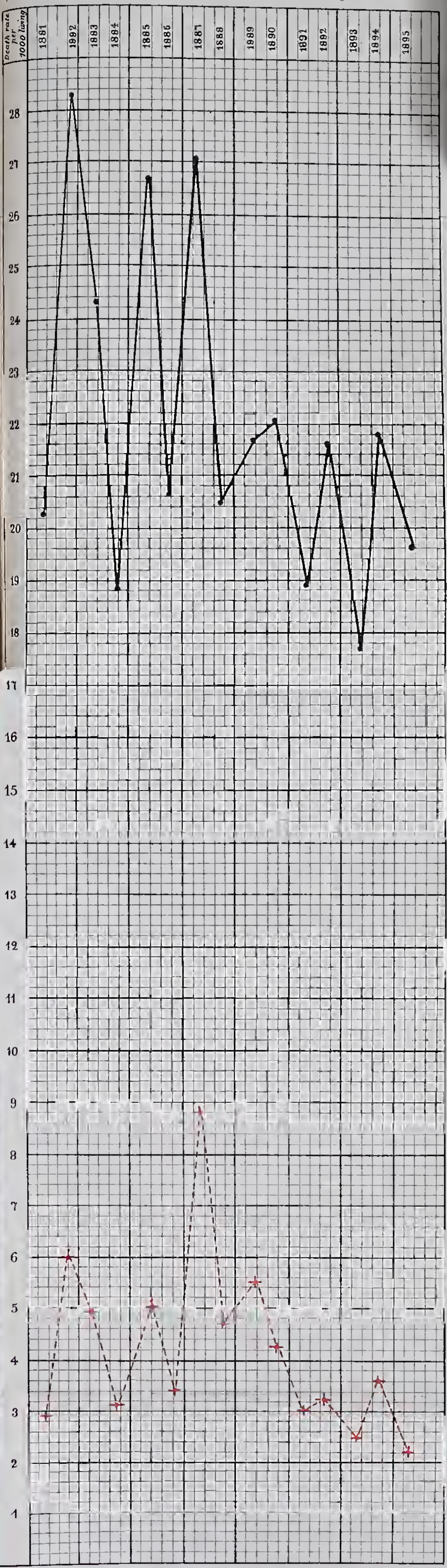
TABLE V.

Statement of the chief sanitary defects dealt with amongst the civil habitations of Gibraltar during 1895.

Description of Defect.	Number of Houses in which the defect was noted.
A.—WATER SUPPLY.	
1. Collecting areas polluted	23
2. Mouth or inlet of tank exposed to pollution	38
3. Water in tank impure	14
4. Overflow of tank directly connected with drain	1
5. Tanks deficient of proper means of drawing water ...	1
6. Wells generally insanitary	2
7. Well water highly polluted	2
8. Insufficient supply of water for flushing, &c.	54
B.—SEWERAGE.	
1. Insufficient W.C. accommodation...	3
2. Insufficient means of flushing	7
3. Situation of W.Cs. insanitary	16
4. Soil pipes leaking	4
5. Soil pipes embedded in walls	17
6. Soil pipes unventilated	5
7. Fittings of W.Cs. insanitary...	43
8. House drains defective	30
9. House drains connected with adjoining houses	6
10. Wash house troughs directly connected with drains ...	6
11. Rain water pipes directly connected with drains	3
12. W.Cs. unventilated	50
C.—KITCHENS.	
1. Sinks untrapped	12
2. Sinks directly connected with drains	13
3. Fireplaces without flues...	16
4. Kitchen accommodation deficient...	28
D.—LIVING ROOMS.	
1. Dirty	3
2. Damp	28
3. Overcrowded	27
4. Badly lighted and ventilated...	61
5. Roofs leaking	6
6. Drains under floor...	41
7. Generally unfit for habitation	8
E.—YARDS.	
1. Badly paved	15
2. Close and foul air	1
3. Blocked with stores and refuse	7
4. Surface traps defective	31
5. Fouled by animals...	3
F.—PREMISES GENERALLY.	
1. Unfit for habitation	4
2. In bad repair...	11
3. Deficient of refuse receptacles	45
4. Stores, shops and kitchens occupied as living rooms ...	40
Total	725

Chart 1.

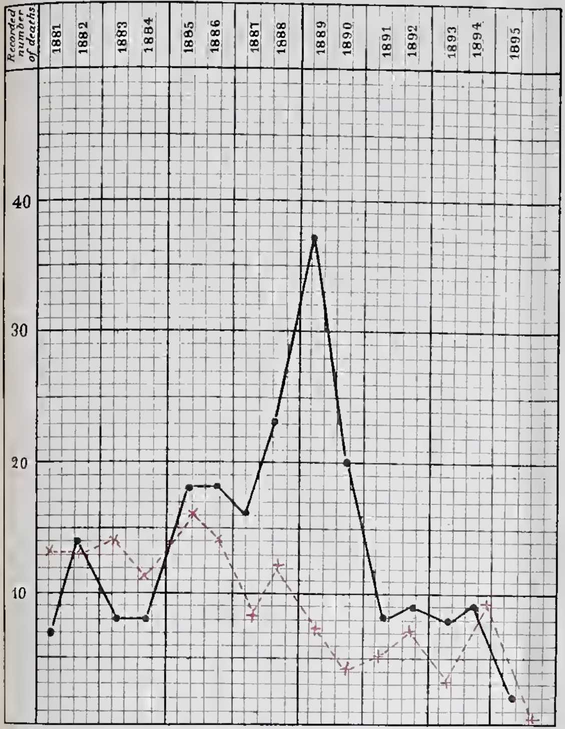
Shewing the General Death Rates and the Zymotic Death rates of the total Civil population, Gibraltar, from the Year 1881 to 1895.



The black continuous line indicates the general death rate.
The red interrupted line indicates the Zymotic death rate.

Chart II

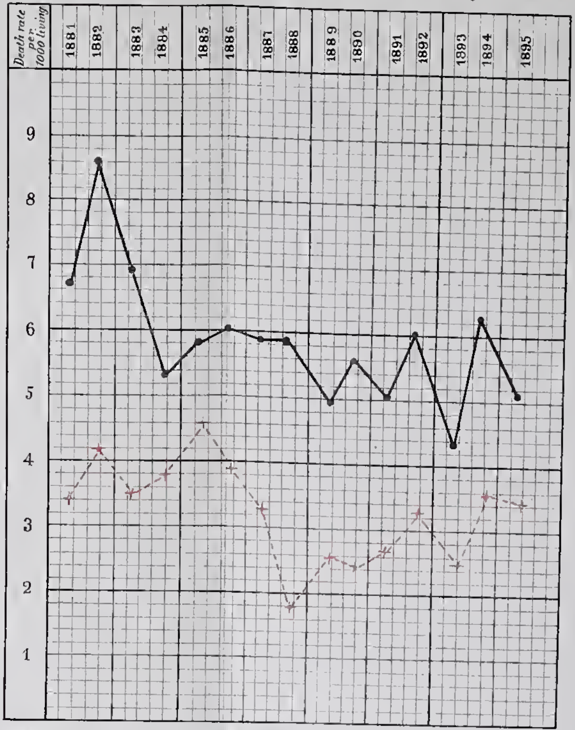
ewing the mortality from Enteric and Continued Fevers and from Diphtheria amongst the total civil population. Gibraltar, from the Year 1881 to 1895.



The black continuous line indicates the number of deaths from Diphtheria.
ed interrupted line indicates the number of deaths from Enteric and Cont^d Fevers.

Chart III

Shewing the death rates from Respiratory and Tubercular Diseases amongst the total civil population, Gibraltar, from the Year 1881 to 1895



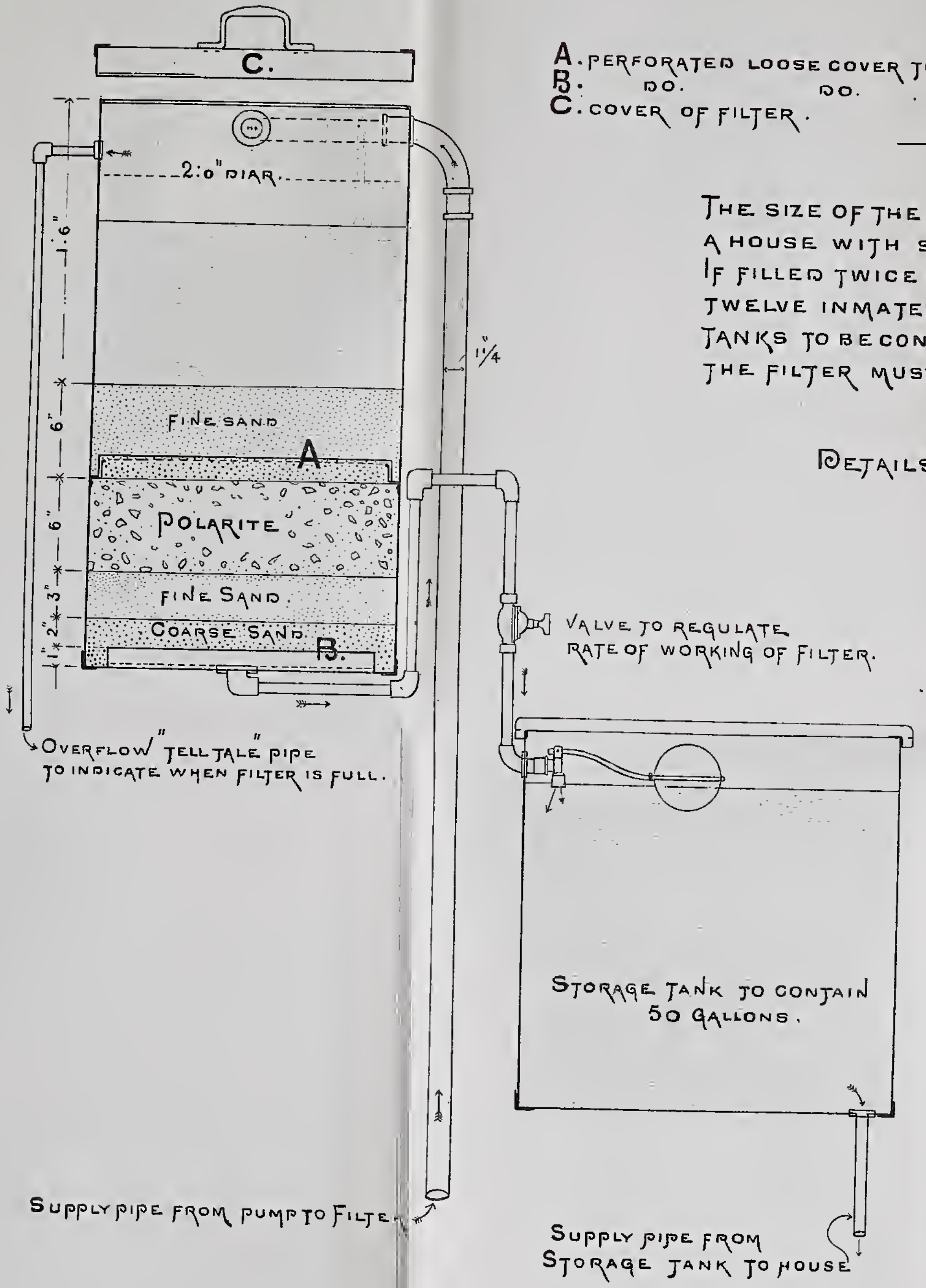
The black continuous line indicates the Respiratory death rate.
The red interrupted line indicates the Tubercular death rate.

PLAN OF FILTER FOR UNDERGROUND TANKS.

A. PERFORATED LOOSE COVER TO PREVENT TOP LAYER OF SAND FROM PASSING THROUGH.
B. DO. DO. DO. BOTTOM LAYER OF SAND FROM PASSING INTO PIPE.
C. COVER OF FILTER.

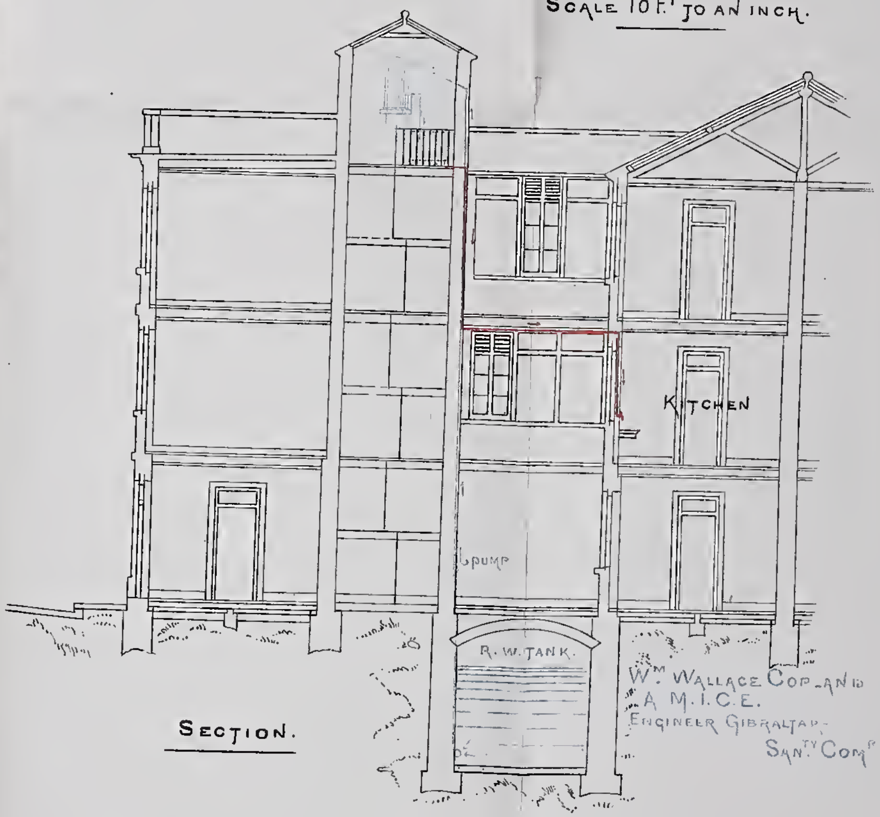
THE SIZE OF THE FILTER HEREIN SHOWN IS SUFFICIENT FOR A HOUSE WITH SIX INMATES IF FILLED ONCE PER DAY.
IF FILLED TWICE PER DAY IT IS SUFFICIENT FOR A HOUSE WITH TWELVE INMATES, AND SO ON.
TANKS TO BE CONSTRUCTED OF GALV.^{D} IRON.
THE FILTER MUST BE CYLINDRICAL IN SHAPE.

DETAILS = SCALE $\frac{1}{8}$ FULL SIZE.


C.
2:0" DIAR.
1.6"
6"
6"
3"
2"
1"
1¼"
FINE SAND
A
POLARITE
FINE SAND
COARSE SAND
B.
VALVE TO REGULATE RATE OF WORKING OF FILTER.
OVERFLOW "TELL TALE" PIPE TO INDICATE WHEN FILTER IS FULL.
STORAGE TANK TO CONTAIN 50 GALLONS.
SUPPLY PIPE FROM PUMP TO FILTER
SUPPLY PIPE FROM STORAGE TANK TO HOUSE

DRAWING SHEWING RELATIVE POSITION OF RAIN WATER TANK, PUMP, GALV^{D} IRON FILTER, STORAGE CISTERN FOR FILTERED WATER AND SUPPLY-PIPES THEREFROM.

SCALE 10 F^{T} TO AN INCH.



SECTION.

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